Regional Water Quality Control Board 895 Aerovista Place, Suite 101 San Luis Obispo, California 93401-5427

Attention: Dr. Wei Liu

GROUNDWATER MONITORING FIRST QUARTER 2006 FORMER GAS STATION 191 LIGHTHOUSE AVENUE MONTEREY, CALIFORNIA

#### 1.0 INTRODUCTION

CapRock has prepared this report presenting the results of the First Quarter 2006 groundwater sampling at the former gas station property located at 191 Lighthouse Avenue in Monterey, California (Figure 1). Four groundwater monitoring wells were installed July, 2002 to assess the impact to groundwater conditions on site from one waste oil Underground Storage Tank (UST) and four gasoline USTs that were removed in July 1999 and in April 2002. Also, in April 2002 a remedial soil excavation was performed (See CapRock Remedial Excavation Report dated May 24, 2002). On October 28, 2003 two additional water monitoring wells (MW-5 and MW-6) were installed across the street from the subject site at 100 Lighthouse Avenue. The two additional wells were installed to further delineate the extent of hydrocarbon contamination in the groundwater down gradient from the subject site. A CapRock Geology Supplemental Corrective Action Plan (CAP) dated February 11, 2004 proposed the use of an oxygen releasing compound (ORC) to enhance the rate of natural bioremediation in the groundwater. The CAP was approved by the Regional Water Quality Control Board (RWQCB) in a letter dated March 22, 2004. Two ORC socks were installed in MW-4 on February 13, 2004, and were removed for the fourth quarter 2004 sampling on October 27, 2004. In a letter dated January 12, 2005 the Regional Water Quality Board requested that the socks be removed, one quarter of sampling be waived, and MW-1, MW-2 and MW-3 no longer to be sampled. The socks were removed on January 11, 2005. For this sampling event MW-4, MW-5 and MW-6 were sampled on February 21, 2006.

April 15, 2006

Ref. No.:4358-07

#### 2.0 SITE DESCRIPTION

The site is a former gas station located at the south corner of Lighthouse Avenue and Reside Avenue within the city limits of Monterey. Three gasoline USTs had previously been located near the southeastern boundary of the subject property, approximately ten feet from the property line. A fourth gasoline UST was found at the northeastern boundary of the property during excavation of the contaminated soil (Figure 2). The site is gently sloping and the USTs were located beneath an asphalt paved parking area that has been re-paved following the remedial excavation.

#### 3.0 METHODOLOGY

Proper decontamination procedures were exercised before purging and sampling of each well. On February 21, 2006 the wells were purged of approximately three well volumes depending upon well yield. During purging temperature, pH, and conductivity parameters were measured. Groundwater samples were collected in laboratory cleaned sample bottles, properly sealed, and placed on ice for transport to a laboratory certified by the state of California for analysis for Total Petroleum Hydrocarbons as gasoline (TPHg), and Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX) by EPA method 8260B. Depth to water was recorded for each well and groundwater elevation calculated.

#### 4.0 GROUNDWATER SAMPLING RESULTS

In a letter dated January 12, 2005 the Regional Water Quality Control Board requested sampling of one monitoring well on the site (MW-4), and the two monitoring wells (MW-5 and MW-6) located across the street from the subject property at 100 Lighthouse Avenue. Monitoring Wells MW-4, MW-5, and MW-6 were sampled on February 21, 2006 for this monitoring event.

Xylenes were detected in MW-5 (1.2 ug/L) and MW-6 (1.0 ug/L). These levels are just above or equal to the labs detectable limit for Xylenes which is 1.0 ug/L; no other constituents were detected in MW-5 or MW-6. MTBE was detected in MW-4 at a level of 6.3 ug/L. The Groundwater analytical results for this quarter are presented in Table 1. Cumulative groundwater analytical results are presented in Table 3.

Based on the elevation of groundwater at each well, a groundwater flow direction and gradient were calculated. On February 21, 2006 the approximate groundwater flow direction was to the Northeast with a gradient of 0.067 ft/ft (Figure 2).

#### 5.0 LIMITATIONS

This report has been prepared on behalf of David Holly as a description of services performed on the property located at 191 Lighthouse Avenue in Monterey. In performing our professional services, we have applied present engineering and scientific judgement and used a level of effort consistent

with the standard of practice measured on the date of this report and in the locale of the project site for similar type activities. CapRock, makes no warranty, expressed or implied, in fact or by law, whether of merchantability, fitness for any particular purpose, or otherwise, concerning any of the materials or "services" furnished by CapRock to the client.

Should you have any questions concerning this Monitoring Well Sampling Report, please contact us at (831) 484-5053.

#### Sincerely,

#### CapRock Geology, Inc.

Robert Barminski, R.G., C.E.G. Principal Hydrogeologist

Figure 1	Site Map
Figure 2	Site Map - Groundwater Contours and Elevations
Figure 3	Site Map - TPHg Contours
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Table 1	Groundwater Analytical Data
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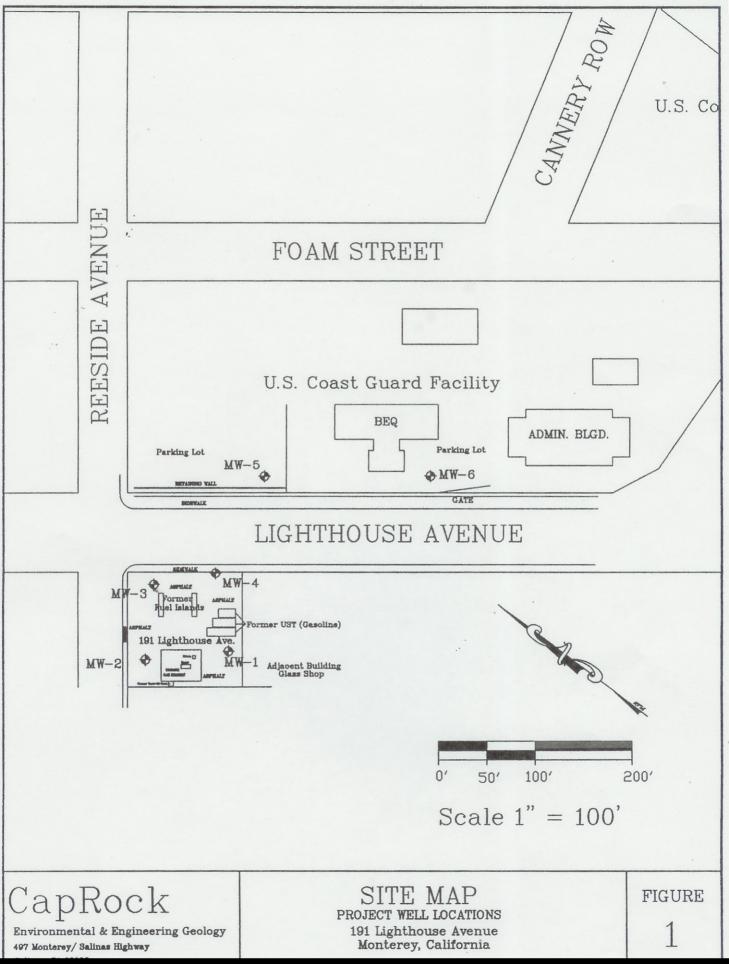
Attachments: Appendix A Complete Laboratory Analytical Results

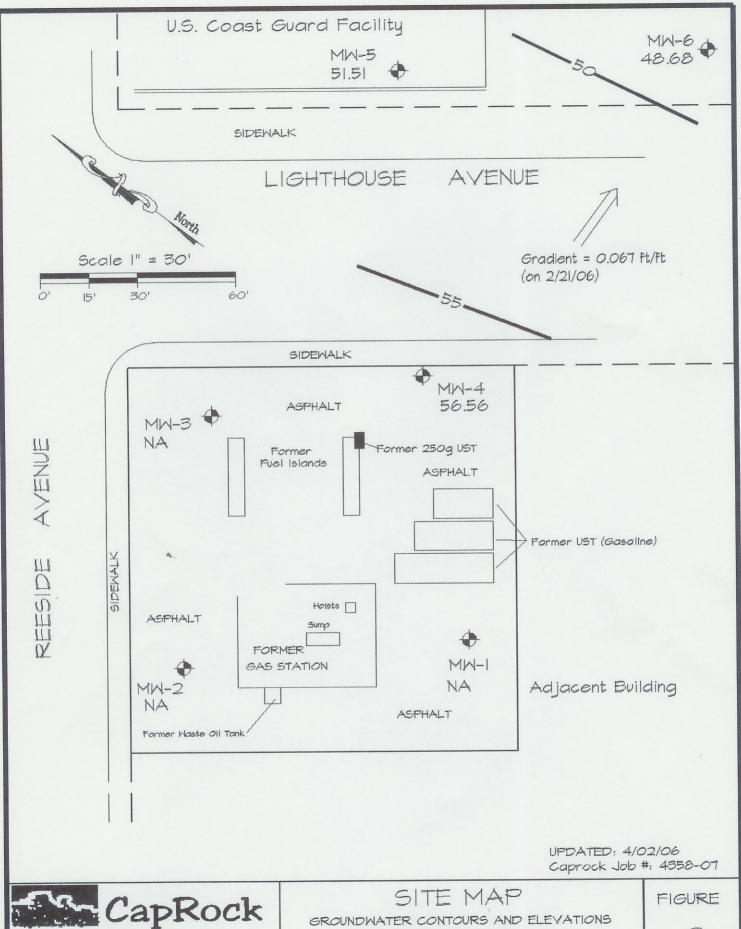
Appendix B Field Data Sheets

# APPENDIX A LABORATORY ANALYTICAL RESULTS

### **APPENDIX B**

#### FIELD DATA SHEETS

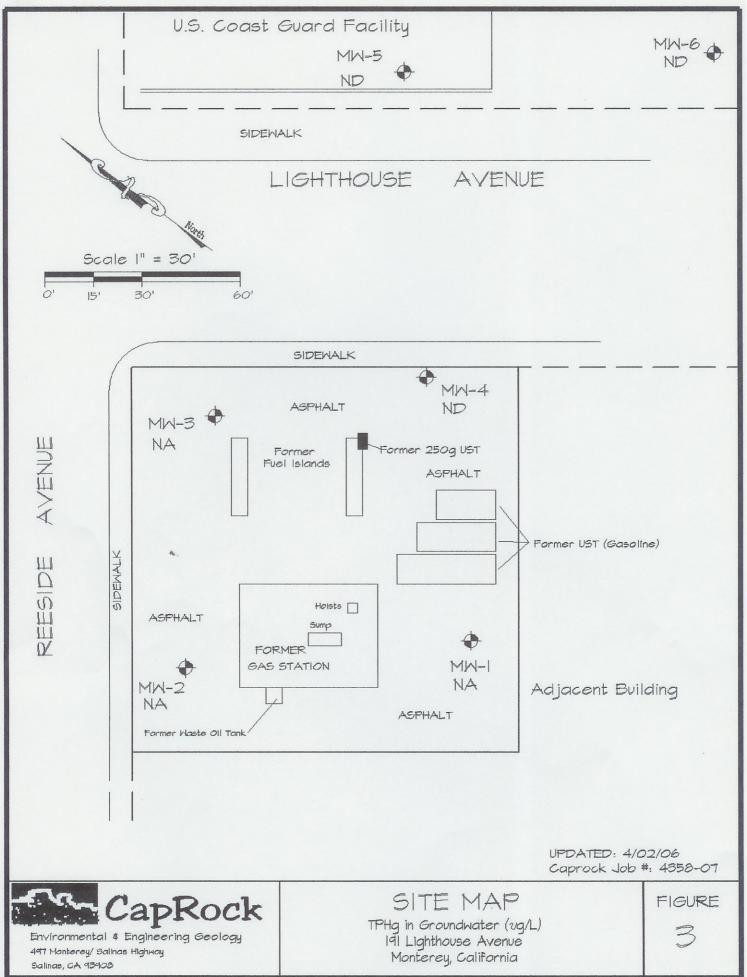


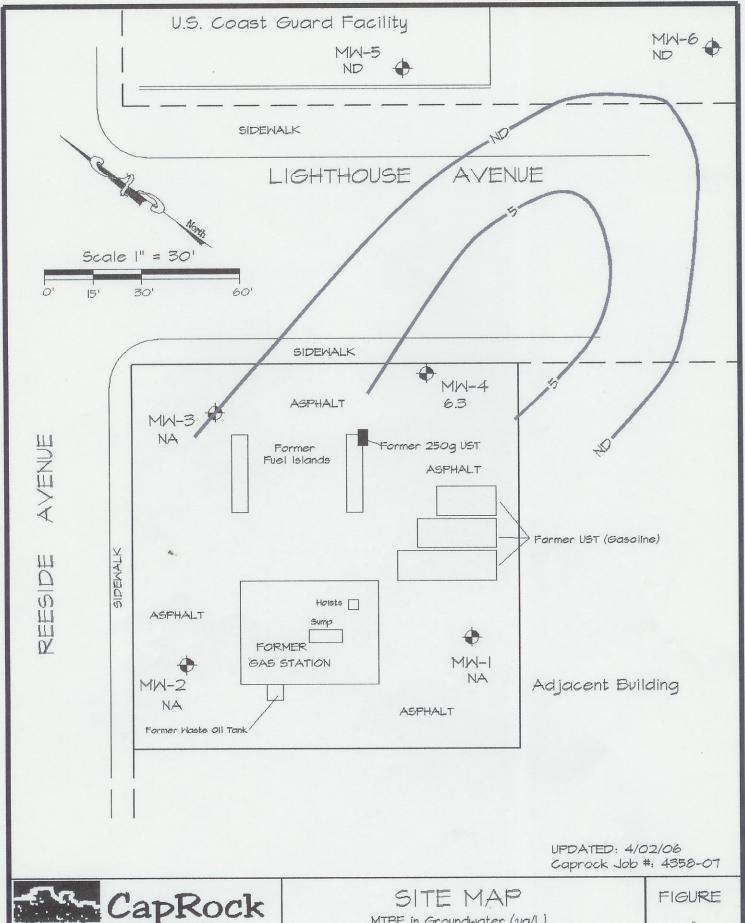


Environmental & Engineering Geology 497 Monterey/ Sallnas Highway Sallnas, CA 93908 GROUNDWATER CONTOURS AND ELEVATIONS
191 Lighthouse Avenue

Monterey, California

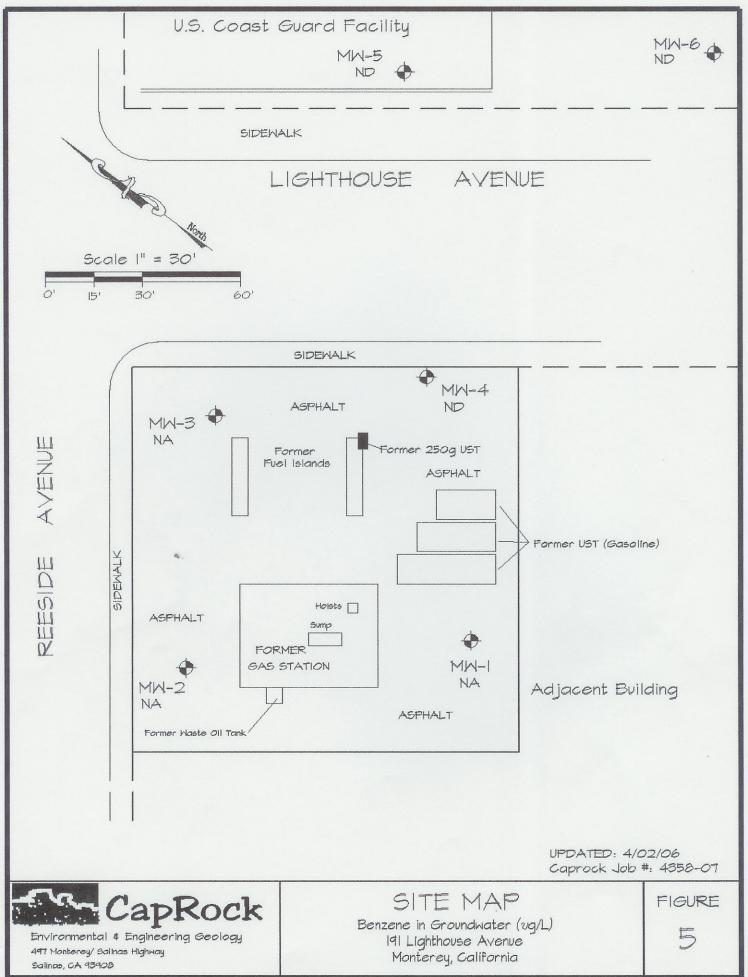
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Environmental & Engineering Geology 497 Monterey/ Sallnas Highway Sallnas, CA 93908 MTBE in Groundwater (vg/L)
191 Lighthouse Avenue
Monterey, California

4



## TABLE 1 GROUNDWATER ANALYTICAL DATA First Quarter 2006

191 Lighthouse Ave., Monterey, CA

Concentrations are expressed in ug/L unless otherwise indicated.

			METHOD 8260B							
Monitoring Well I.D.	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MtBE	TPHg			
MW-1	02/21/06	NA	NA	NA	NA	NA	NA			
MW-2	02/21/06	NA	NA	NA	NA	NA	NA			
MW-3	02/21/06	NA	NA	NA	NA	NA	NA			
MW-4	02/21/06	ND	ND	ND	ND	6.3	ND			
MW-5	02/21/06	ND	ND	ND	1.2	ND	ND			
MW-6	02/21/06	ND	ND	ND	1.0	ND	ND			

#### Abbreviations:

TPHg - Total Petroleum Hydrocarbons as gasoline

MtBE - Methyl-tert-Butyl-Ether

NA - Not Analyzed

ND - Non Detect

#### **TABLE 2 GROUNDWATER ELEVATION DATA IN FEET** First Quarter 2006

191Lighthouse Ave., Monterey, CA
\* Elevations calculated from a mean sea level datum

Monitoring Well I.D.	Sample Date	Depth of Well	Depth to Water	Elevation at Well Casing	Elevation of Water in Monitoring Well
MW-1	02/21/06	NA	NA	NA	NA
MW-2	02/21/06	NA	NA	NA	NA
MW-3	02/21/06	NA	NA	NA	NA
MW-4	02/21/06	5.61	1.89	58.45	56.56
MW-5	02/21/06	10.80	2.30	53.81	51.51
MW-6	02/21/06	12.91	4.86	53.54	48.68

Abbreviations:

NA - Not Analyzed

#### TABLE 3

## CUMULATIVE GROUNDWATER ANALYTICAL DATA 191 Lighthouse Ave., Monterey, CA Concentrations are expressed ug/L unless otherwise indicated.

Monitoring	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MtBE	TPHg	TPHd	TDS
Well I.D.	00/45/00	4.5	ND		_	40.4			(mg/L)
MW-1 MW-1	08/15/02 12/12/02	4.5 ND	ND ND	ND ND	4.4 ND	10.1 5.2	ND ND	NA NA	NA NA
MW-1			11.1	ND ND	6.6	5.3	67.0	NA NA	NA NA
MW-1	04/03/03 06/06/03	4.9 ND	ND	ND ND	ND	ND	ND	NA NA	NA NA
MW-1	09/08/03	ND ND	ND	ND ND	ND	ND	ND ND	ND ND	NA NA
MW-1	12/09/03	ND ND	ND	ND ND	ND	ND	ND	ND ND	NA NA
MW-1	03/31/04	ND	ND	ND ND	ND ND	ND	ND ND	NA	949.0
MW-1	05/21/04	ND	ND	ND ND	ND	ND	ND ND	NA	NA
MW-1	09/20/04	ND	ND	ND	ND	ND	ND	NA	NA
MW-1	11/10/04	ND	ND	ND	ND	ND	ND	NA	NA
MW-1	04/14/05	NA	NA	NA NA	NA	NA	NA	NA	NA
MW-1	08/16/05	NA	NA	NA NA	NA	NA	NA	NA	NA
MW-1	10/24/2005	NA	NA	NA	NA	NA	NA	NA	NA
MW-1	2/21/2006	NA	NA	NA	NA	NA	NA	NA	NA
MW-2	08/15/02	ND	ND	ND	ND	ND	ND	NA	NA
MW-2	12/12/02	ND	ND	ND	ND	ND	ND	NA	NA
MW-2	04/03/03	0.4	1.9	ND	2.6	ND	ND	NA	NA
MW-2	06/06/03	ND	ND	ND	ND	ND	ND	NA	NA
MW-2	09/08/03	ND	ND	ND	ND	ND	ND	ND	NA
MW-2	12/09/03	ND	ND	ND	ND	ND	ND	ND	NA
MW-2	03/31/04	ND	ND	ND	ND	ND	ND	NA	NA
MW-2	05/21/04	ND	ND	ND	ND	ND	ND	NA	NA
MW-2	09/20/04	ND	ND	ND	ND	ND	ND	NA	NA
MW-2	11/10/04	ND	ND	ND	ND	ND	ND	NA	NA
MW-2	04/14/05	NA	NA	NA	NA	NA	NA	NA	NA
MW-2	08/16/05	NA	NA	NA	NA	NA	NA	NA	NA
MW-2	10/24/2005	NA	NA	NA	NA	NA	NA	NA	NA
MW-2	2/21/2006	NA	NA	NA	NA	NA	NA	NA	NA
MW-3	08/15/02	ND	ND	ND	ND	ND	ND	NA	NA
MW-3	12/12/02	ND	ND	ND	ND	ND	ND	NA	NA
MW-3	04/03/03	0.4	1.9	ND	2.4	ND	ND	NA	NA
MW-3	06/06/03	ND	ND	ND	ND	ND	ND	NA	NA
MW-3	09/08/03	ND	ND	ND	ND	ND	ND	ND	NA
MW-3	12/09/03	ND	ND	ND	ND	ND	ND	ND	NA
MW-3	03/31/04	ND	ND	ND	ND	ND	ND	NA	NA
MW-3	05/21/04	ND	ND ND	ND ND	ND ND	ND	ND ND	NA NA	NA NA
MW-3	09/20/04 11/10/04	ND ND	ND ND	ND ND	ND	ND ND	ND ND	NA NA	NA NA
MW-3 MW-3	04/14/05	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA
MW-3	08/16/05	NA NA	NA NA	NA NA	NA NA	NA	NA NA	NA NA	NA NA
MW-3	10/24/2005	NA NA	NA NA	NA NA	NA NA	NA	NA NA	NA NA	NA NA
MW-3	2/21/2006	NA	NA	NA NA	NA	NA	NA	NA	NA NA
MW-4	08/15/02	13.0	2.0	ND	118.0	1820.0	2940.0	NA	NA
MW-4	12/12/02	20.3	3.6	ND	77.6	475.0	1380.0	NA	NA
MW-4	04/03/03	3140.0	920.0	394.0	1210.0	3140.0	18100.0	NA	NA
MW-4	06/06/03	1370.0	168.0	ND	134.0	234.0	3800.0	NA	NA
MW-4	09/08/03	640.0	48.0	ND	56.0	72.0	1920.0	ND	NA
MW-4	12/09/03	5.1	48.0	ND	152.6	40.6	6770.0	ND	NA
MW-4	03/31/04	1.8	0.7	ND	9.9	83.5	145.0	NA	NA
MW-4	05/21/04	25.3	17.7	3.5	19.2	7.6	294.0	NA	NA
MW-4	09/20/04	6.7	1.0	ND	ND	7.4	809.0	NA	NA
MW-4	11/10/04	ND	ND	ND	ND	ND	ND	ND	NA
MW-4	04/19/05	77.3	28.2	ND	54.1	54.9	1110.0	NA	NA
MW-4	08/16/05	ND	ND	ND	15.6	4.3	1240.0	NA	NA
MW-4	10/24/2005	22.8	2.8	ND	9.8	12.4	453	NA	NA
MW-4	02/21/06	ND	ND	ND	ND	6.3	ND	NA	NA

#### TABLE 3

## CUMULATIVE GROUNDWATER ANALYTICAL DATA 191 Lighthouse Ave., Monterey, CA

Concentrations are expressed ug/L unless otherwise indicated.

Monitoring Well I.D.	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MtBE	TPHg	TPHd	TDS (mg/L)
MW-5	12/09/03	ND	ND	ND	ND	ND	ND	ND	NA
MW-5	03/31/04	ND	ND	ND	ND	ND	ND	NA	NA
MW-5	05/21/04	ND	0.6	ND	ND	ND	ND	NA	NA
MW-5	09/20/04	ND	ND	ND	ND	ND	ND	NA	NA
MW-5	11/10/04	ND	ND	ND	ND	ND	ND	NA	NA
MW-5	04/14/05	ND	ND	ND	ND	ND	ND	NA	NA
MW-5	08/16/05	ND	ND	ND	ND	ND	ND	NA	NA
MW-5	10/24/2005	ND	ND	ND	ND	ND	ND	NA	NA
MW-5	2/21/2006	ND	ND	ND	1.2	ND	ND	NA	NA
MW-6	12/09/03	ND	ND	ND	ND	ND	ND	ND	NA
MW-6	03/31/04	ND	ND	ND	ND	ND	ND	NA	NA
MW-6	05/21/04	ND	ND	ND	ND	ND	ND	NA	NA
MW-6	09/20/04	ND	ND	ND	ND	ND	ND	NA	NA
MW-6	11/10/04	ND	1.5	ND	ND	ND	ND	NA	NA
MW-6	04/13/05	ND	ND	ND	ND	4.0	ND	NA	NA
MW-6	8/16/2005	ND	ND	ND	1.2	3.9	ND	NA	NA
MW-6	10/24/2005	ND	ND	ND	ND	ND	ND	NA	NA
MW-6	2/21/2006	ND	ND	ND	1.0	ND	ND	NA	NA

**TABLE 4** 

### CUMULATIVE GROUNDWATER ELEVATION DATA IN FEET 191 Lighthouse Ave., Monterey, CA

\* Elevations calculated from a mean sea level datum

Monitoring Well I.D.			Depth to Water	Elevation at Well Casing	Elevation of Water in Monitoring Well
MW-1	08/15/02	9.50	4.86	62.52	57.66
MW-1	12/12/02	9.50	3.89	62.52	58.63
MW-1	04/03/03	9.40	3.45	62.52	59.07
MW-1	06/06/03	9.50	3.78	62.52	58.74
MW-1	09/08/03	9.50	3.00	62.52	59.52
MW-1	12/09/03	9.50	2.87	62.52	59.65
MW-1	03/31/04	9.50	3.02	62.52	59.50
MW-1	05/21/04	9.50	3.36	62.52	59.16
MW-1	09/20/04	9.50	4.02	62.52	58.52
MW-1	11/10/04	9.52	3.72	62.52	58.80
MW-1	04/14/05	NA	NA	NA	NA
MW-1	08/16/05	NA	NA	NA	NA
MW-1	10/24/2005	NA	NA	NA	NA
MW-1	2/21/2006	NA	NA	NA	NA
MW-2	08/15/02	14.30	4.15	64.26	60.11
MW-2	12/12/02	14.30	4.03	64.26	60.23
MW-2	04/03/03	14.30	3.80	64.26	60.46
MW-2	06/06/03	14.34	4.09	64.26	60.17
MW-2	09/08/03	14.31	3.81	64.26	60.45
MW-2	12/09/03	14.31	3.57	64.26	60.69
MW-2	03/31/04	14.30	3.10	64.26	61.16
MW-2	05/21/04	14.30	3.41	64.26	60.85
MW-2	09/20/04	14.25	4.11	64.26	60.15
MW-2	11/10/04	14.30	4.82	64.26	59.44
MW-2	04/14/05	NA	NA	NA	NA
MW-2	08/16/05	NA	NA	NA	NA
MW-2	10/24/2005	NA	NA	NA	NA
MW-2	2/21/2006	NA	NA	NA	NA
MW-3	08/15/02	14.10	3.40	60.77	57.37
MW-3	12/12/02	14.40	3.00	60.77	57.77
MW-3	04/03/03	14.05	2.30	60.77	58.47
MW-3	06/06/03	14.42	2.85	60.77	57.92
MW-3	09/08/03	14.42	3.23	60.77	57.54
MW-3	12/09/03	14.42	3.29	60.77	57.48
MW-3	03/31/04	14.41	2.26	60.77	58.51
MW-3	05/21/04	14.37	2.62	60.77	58.15
MW-3	09/20/04	14.38	3.51	60.77	57.26
MW-3	11/10/04	14.30	3.02	60.77	57.75
MW-3	04/14/05	NA	NA	NA	NA
MW-3	8/16/2005	NA	NA	NA	NA
MW-3	10/24/2005	NA	NA	NA	NA
MW-3	2/21/2006	NA	NA	NA	NA
MW-4	08/15/02	5.60	3.68	58.45	54.77
MW-4	12/12/02	5.60	3.20	58.45	55.25
MW-4	04/03/03	5.35	2.90	58.45	55.55

#### **TABLE 4**

### CUMULATIVE GROUNDWATER ELEVATION DATA IN FEET 191 Lighthouse Ave., Monterey, CA

\* Elevations calculated from a mean sea level datum

Monitoring Well I.D.	Sample Date   Denth c		Depth to Water	Elevation at Well Casing	Elevation of Water in Monitoring Well
MW-4	06/06/03	5.60	3.80	58.45	54.65
MW-4	09/08/03	5.61	2.69	58.45	55.76
MW-4	12/09/03	5.61	2.34	58.45	56.11
MW-4	03/31/04	5.56	1.79	58.45	56.66
MW-4	05/21/04	5.60	2.12	58.45	56.33
MW-4	09/20/04	5.57	2.95	58.45	55.50
MW-4	11/10/04	6.02	2.50	58.45	55.95
MW-4	04/19/05	5.58	1.60	58.45	56.85
MW-4	08/17/05	5.6	1.89	58.45	56.56
MW-4	10/24/05	5.67	2.73	58.45	55.72
MW-4	02/21/06	5.61	1.89	58.45	56.56
MW-5	12/09/03	10.75	3.69	53.81	50.12
MW-5	03/31/04	10.75	2.25	53.81	51.56
MW-5	05/21/04	10.76	3.27	53.81	50.54
MW-5	09/20/04	10.76	4.51	53.81	49.30
MW-5	11/10/04	10.59	3.10	53.81	50.71
MW-5	04/14/05	10.70	1.37	53.81	52.44
MW-5	08/16/05	11.00	3.10	53.81	50.71
MW-5	10/24/05	10.78	3.55	53.81	50.26
MW-5	02/21/06	10.80	2.30	53.81	51.51
MW-6	12/09/03	12.95	4.71	53.54	48.83
MW-6	03/31/04	12.90	4.66	53.54	48.88
MW-6	05/21/04	12.91	5.08	53.54	48.46
MW-6	09/20/04	12.90	5.43	53.54	48.11
MW-6	11/10/04	12.28	4.11	53.54	49.43
MW-6	04/13/05	12.80	3.02	53.54	50.52
MW-6	08/16/05	13.10	4.10	53.54	49.44
MW-6	10/24/05	12.91	4.60	53.54	48.94
MW-6	02/21/06	12.91	4.86	53.54	48.68

## TABLE 5 WELL COMPLETION DATA

191 Lighthouse Ave., Monterey, CA

	101 Lighthouse Ave., Monterey, OA										
ID	DATE	Material	Total Depth (TD)	Slot	Screened	Sand	Annular	Seal	Well Elevation		
MW-1	07/09/02	2 inch PVC	10	0.010	10-3	10-2	8"	0-2	62.52		
MW-2	07/09/02	2 inch PVC	15	0.010	15-3	15-2.5	8"	0-2.5	64.26		
MW-3	07/09/02	2 inch PVC	15	0.010	15-3	15-2	8"	0-2	60.77		
MW-4	07/09/02	2 inch PVC	6	0.010	6-3	6-2	8"	0-2	58.45		
MW-5	10/28/03	2 inch PVC	11.3	0.010	11.3-3	15-2	8"	0-2	53.81		
MW-6	10/28/03	2 inch PVC	13	0.010	13-3	6-2	8"	0-2	53.54		

consistent with the standard of practice measured on the date of this report and in the locale of the project site for similar type activities. CapRock, makes no warranty, expressed or implied, in fact or by law, whether of merchantability, fitness for any particular purpose, or otherwise, concerning any of the materials or "services" furnished by CapRock to the client.

Should you have any questions concerning this Monitoring Well Sampling Report, please contact us at (831) 484-5053.

Sincerely,

CapRock Geology, Inc.

Robert Barminski, R.G., C.E.G. Principal Hydrogeologist

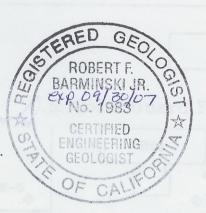


Figure 1 Site Map

Figure 2 Site Map - Groundwater Contours and Elevations

Figure 3 Site Map - TPHg Contours
Figure 4 Site Map - MTBE Contours

Figure 5 Site Map - Benzene Contours

Table 1 Groundwater Analytical Data
Table 2 Groundwater Elevation Data

Table 2 Groundwater Elevation Data

Table 3 Cumulative Groundwater Analytical Data

Table 4 Cumulative Groundwater Elevation Data

Table 5 Well Completion Data

Attachments: Appendix A Complete Laboratory Analytical Results

Appendix B Field Data Sheets